REMARKS

Applicant amended claims 1 and 30 to clarify the reference to "second width".

Referring to Fig. 2B in the present application, it is noted that as the analytes flow from the separation channel 504 of capillary column 22 into the collar 10 (i.e., detection section), the analytes remain subject to the applied potential. As a result, the analytes continue to maintain separation state (i.e., in the form of a series of separate analyte bands) as they migrate/flow past the detection zone 20. Some mixing or diffusion of the analytes may occur in the collar near the exit of the separation channel 504 (i.e., a transition in width from the width of the separation channel 504 to the width of the collar/detection section), but analytes "regroup" into separated state as they continue down along the collar 10 towards the detection zone 20. The detection zone 20 is located downstream from the exit in the wider collar 10, at a location to provide sufficient distance for the analytes to regroup before detection at the detection zone 20.

Applicant amended the specification to refer to the exit of the separation channel 504 into the collar 10 as a transition in width from the width of the separation channel 504 to the width of the collar 10. Such amendment is does not introduce new matter, as supported by Fig. 2B and accompanying disclosure in the specification as filed. As shown in Fig. 2B, the exit of the separation channel 504 is a well defined transition in the width from the width of the separation channel 504 to the width of the collar 10. Mixing or diffusion may occur in the collar 10, only after the analytes exit the exit of the separation channel 504. Accordingly, the operative transition point of relevance to diffusion, mixing and regrouping of analytes would be measure from such exit or transition.

Also referring to Fig. 13, which clearly shows a "transition" of a flow path of a first width to a second width. Intuitively, anywhere a flow path expands from a first width to a second width, inherently there must be a transition in width from the first width to the second width. This is the case with Fig. 13, as is also the case in Fig. 2B, and further in Fig. 9B and Fig. 10B. When viewed as a whole, Applicant respectfully submits that the disclosure supports the meaning of "transition".

Further, Applicant notes that the related patent application serial no. 09/887,872 had issued as U.S. Patent No. 6,529,275, which claims also employ this "transition" recitation based on essentially a similar disclosure with respect to this structure. While individual applications should be reviewed and examined on its own merits with respect to prior art, to find the use of similar recitation of "transition" in the present application to be unsupported by the original specification would be inconsistent and arbitrary discretion of the Examiners.

Applicant amended independent claims 1 and 30 to recite a location along the detection section defining a detection zone, said location being defined at a distance of 100 to 500 times the second width of the detection section from the transition in width from the first width of the separation channel to the second width of the detection section. Applicant respectfully submits that independent claims 1 and 30 as amended are definite, given the disclosure of the specification as a whole, as to allow one or ordinary skill in the art to fully appreciate the scope of claims 1 and 30. The scope of the claim would be definite, as it is to be interpreted in light of the specification.

Taylor does not disclose the capillary having a widened section at the detection zone, but rather a capillary having a uniform width along its length, even at the detection zone.

Zhu does not make up for the deficiencies of Taylor. Zhu does not teach or suggest that the detection zone could or should be located at a distance 100 to 500 times of the width of the wider detection section, from the transition from the narrower separation channel, as required by the independent claims 1 and 30 as amended.

In fact, Zhu is silent in the written disclosure as to the location of the detection zone, much less disclose defining the detection zone to be at such a distance from the transition. Since there is no accompanying disclosure of the location of the tip of the fiber optic 3, one can and should only refer to what is specifically shown in the drawings in Zhu. Fig. 3 in Zhu shows the fiber optic 3 inserted into the increased inner diameter 1d of the bore 2, with the tip within 1 time of the increased diameter 1d from the transition from the smaller diameter. Fig. 3 does not specifically or by implication show the tip to be at the recited distance in claims 1 and 30 as amended. Zhu did not address the concerns of mixing, diffusion and regrouping of analyte back into separated state, and accordingly Zhu would not have disclosed the specific location of the detection zone, without consideration of mixing, diffusion and regrouping of analytes.

Further, the location of the detection zone at the specific recited distance is not an obvious matter of design choice, since the motivation for such (e.g., to take into account of analyte mixing, diffusion and regrouping) is not found anywhere in Zhu.

Accordingly, even if Zhu can somehow be combined with Taylor, the combination would not result in the present invention defined in claims 1 and 30.

Furthermore, there is no motivation to combine Taylor and Zhu in the first place. Taylor discloses use of a fiber optic for **axial excitation** of the sample and does not disclose use of this fiber optic for axial detection. Rather, Taylor discloses off-column detection. In contrast to Taylor, Zhu teaches use of a fiber optic for **axial detection** and teaches only off-column

excitation. Zhu therefore conflicts with Taylor. There is no motivation found anywhere in either Taylor or Zhu, if and how **axial excitation** in Taylor can and should be modified with **axial detection** of Zhu. In fact, Taylor teaches away from Zhu. Axial excitation has the advantage of avoiding scattering of radiation at the walls of the detection section, which is otherwise experienced during off-column excitation (i.e., radiation directed from the side of the detection section). Any modification of Taylor based on Zhu would frustrate the objectives of Taylor.

Consequently, the modification of Taylor to adopt the axial detection scheme of Zhu using a widened detection section as suggested by the Examiner, can only be based on impermissible hindsight reconstruction made possible by the disclosure of the present invention.

Accordingly, the claims 1 and 30, and the claims dependent therefrom, are patentable over Taylor in view of Zhu.

CONCLUSION

In view of all the foregoing, Applicant submits that the claims pending in this application are patentable over the references of record and are in condition for allowance. Such action at an early date is earnestly solicited. The Examiner is invited to call the undersigned representative to discuss any outstanding issues that may not have been adequately addressed in this response.

The Assistant Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this Response and associated documents but have not been enclosed, or to credit any overpayment to **Deposit Account No. 501288** referencing docket no. 1031/204.

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